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DESCRIPTION

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INTERNAL GEAR FORMING METHOD AND INTERNAL GEAR

^ This application is a 35 USC 371 of PCT/JP03/01401 filed 02/10/2003.

Technical Field

This invention relates to a method for forming an internal gear having a helical tooth and an internal gear formed by this forming method.

Background Art

One example of a method for forming an internal gear is described in the Official Gazette of Japanese Patent Publication No. H08-11264 and in the Official Gazette of Japanese Patent Application Laid-Open No. H09-26869. In case an internal gear is to be formed by a method described in those Official Gazettes, first, a cylindrical raw material is externally inserted onto a forming die having an outer gear part and fixed thereto. With a forming roll, which is rotatable about its own axis, pressed against the outer peripheral surface of the raw material, the forming roll is moved from one end side of the raw material to the other end side and relatively revolved about the axis of the forming die. By this, the inner peripheral surface of the raw material is pressed against the outer gear part to form an internal gear part corresponding to the outer gear part on the inner peripheral surface of the raw material.

The above conventional method for forming an internal gear has no problem in forming a spur gear whose tooth trace is in parallel relation to the axis of the internal gear. However, when this method is used for forming an internal gear having a helical tooth, a defective flow of the substantial part (solid part) of the gear raw material at the forming time occurs depending on the relation between the helical